The North Carolina Health Professions Data System

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North Carolina Health Professions Data System

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Who are we?

- A collaboration between the Sheps Center, NC AHEC and the health professions licensing boards

- Data are provided **voluntarily** by the boards—there is no legislation that requires this, there is no appropriation

- ~30 years of continuous, complete licensure (**not survey**) data

Who are we?

- Data housed at Sheps but remain property of licensing board, permission sought for each "new" use

- System is independent of government or health care professionals

- Funding provided by: NC AHEC Program Office, data request fees, project cross-subsidies, and the UNC-CH Office of the Provost.

Our Mission

To provide timely, objective data and analysis to support decision making for health professions policy in North Carolina and the United States

- To support research and policy analysis of health workforce issues

- To train others in how to develop and maintain data systems in health workforce

Categories of Health Professionals in Data System*

- Physicians (MDs and DOs)

- Physician Assistants

- Dentists

- Dental Hygienists

- Optometrists

- Pharmacists

- Physical Therapists

- Physical Therapist Assistants

- Respiratory Therapists *(2004)*

- Registered Nurses

- Nurse Practitioners

- Certified Nurse Midwives *(1985)*

- Licensed Practical Nurses

- Chiropractors

- Podiatrists

- Psychologists

- Psychological Associates

- Occupational Therapists *(2006)*

- Occupational Therapy Assistants *(2006)*

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Data Collected by the HPDS

Demographic and Educational Info — **Employment Info**

Legend:
- Initial Licensure Data (blue)
- Renewal Data (green)

Profession	Unique ID	Birth date	Gender	Race/ethnicity	Place of Birth*	Home Address	Preferred Mailing address*	Entry Degree	School Attended & Location	Graduation Year	Highest Degree Obtained*	Practice Address	Practice Setting	Type of Position	Clinical Practice Area	Secondary Practice	Hours worked per week*	Activity Status - retired, active, unemployed
MD/DO	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•
PAs	•	•	•	•		•	•	•	•	•		•	•	•	•	•	•	•
NPs	•	•	•	•		•	•	•	•	•	•	•	•	•	•			•
Dentists	•	•	•	•		•	•	•	•	•		•	•	•	•	•	•	•
Dental Hygienists	•	•	•	•		•	•	•	•	•		•	•	•			•	•
RNs/LPNs	•	•	•	•		•	•	•	•	•	•	•	•	•	•		•	•
Pharmacists	•	•	•	•		•	•	•	•	•			•		•		•	•
PT/PTAs	•	•	•	•		•	•	•	•	•		•	•	•				•
OT/OTAs	•	•	•	•		•	•	•	•	•	•				•		•	•

*Desirable, through not imperative in the minimum dataset for HPDS purposes.

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Challenges to Collecting Data

- **Motivational –** Why do it? Convince policy-makers and funders that it's worth it to collect and analyze workforce data

- **Organizational -** How to set it up, where

- **Analytical -** How do you count/define/locate providers?

- **Financial -** Who pays? How do you sustain?
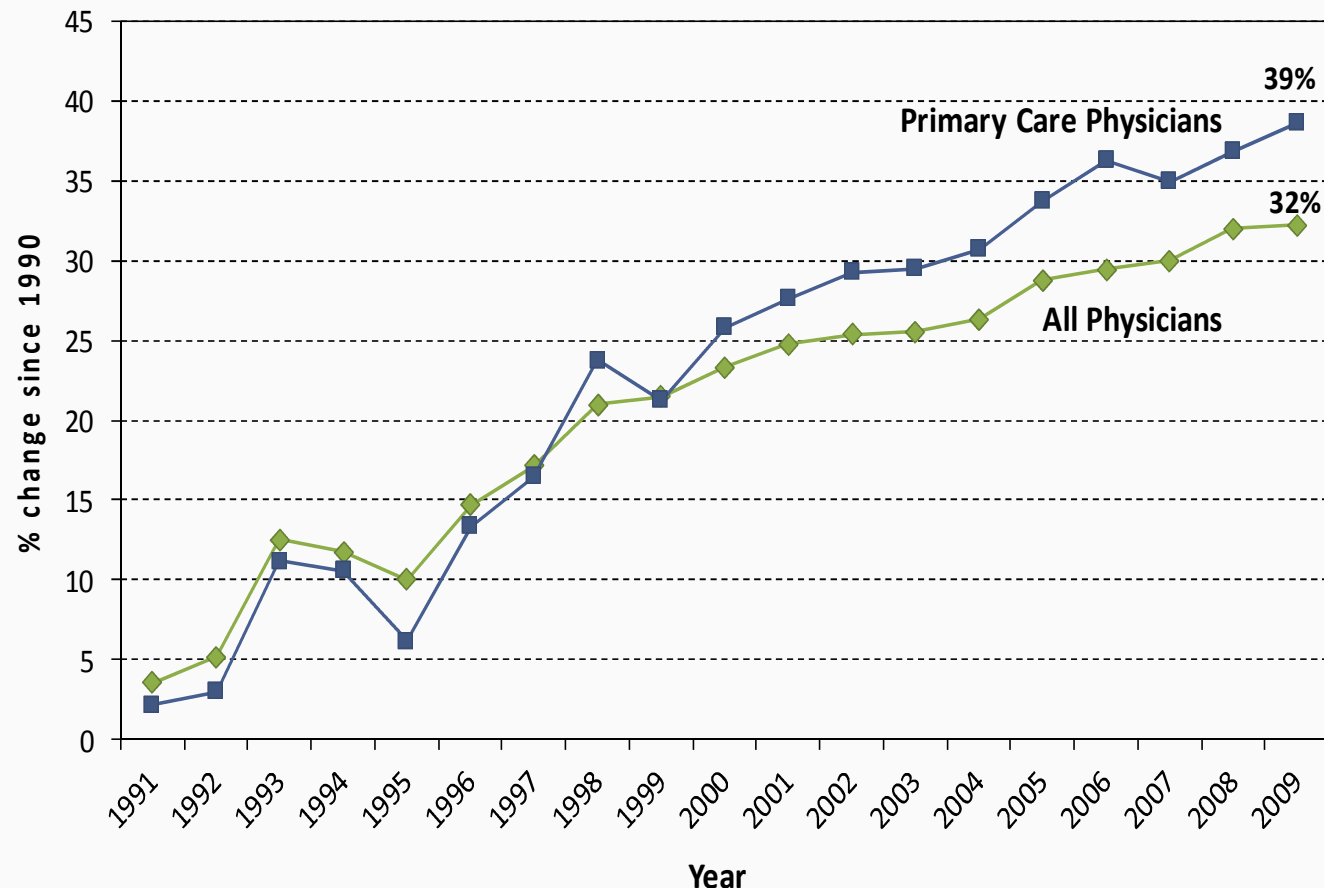
Motivational | Organizational | Analytical | Financial

Data-driven workforce analyses necessary to:

Monitor Trends

Percentage Growth Since 1990 of Physicians and Primary Care Physicians per 10,000 Population, North Carolina, 1991-2009

Chart: % change since 1990 vs Year (1991–2009). Two series — Primary Care Physicians (ending at 39%) and All Physicians (ending at 32%).

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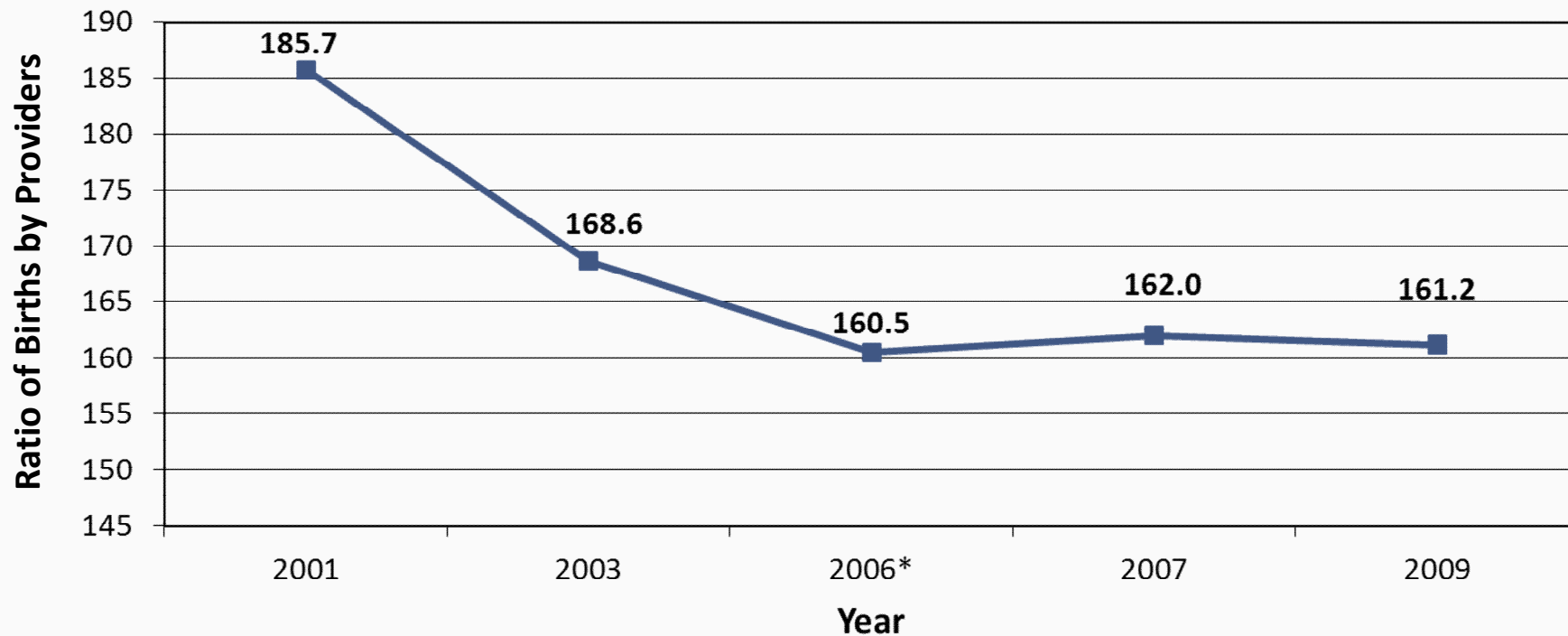
Motivational | **Organizational** | **Analytical** | **Financial**

Data-driven workforce analyses necessary to:

Challenge Anecdotal Evidence

Annual Number of Births per OB/GYN Providing Obstetric Deliveries North Carolina, 2001-2009

*2005 data contained a large percentage of missing values, therefore 2006 data were used.

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CHALLENGES

| **Motivational** | Organizational | Analytical | Financial |

Data-driven workforce analyses necessary to:

Justify Funding Requests

- **Dental school:** HPDS data instrumental in decision to build new dental school in eastern part of state

- **Pharmacy school:** HPDS data saved the state an estimated $80 million by showing NC had more than adequate supply of pharmacists

- **Medical school and GME expansion:** HPDS data used to identify geographic and specialty areas in short supply

Motivational	**Organizational**	**Analytical**	**Financial**

Data-driven workforce analyses necessary for:

Evaluation

North Carolina Medical School Graduates: Retention in State and in Primary Care After Five Years, Class of 2004

School	2004 Graduates	In Training or Practice In NC 2009		In Primary Care and in Practice in NC 2009	
		#	%	#	%
Duke	106	21	20%	4	4%
ECU	81	42	52%	21	26%
UNC-Chapel Hill	176	54	31%	26	15%
Wake Forest	107	40	37%	16	15%
Total	**470**	**157**	**33%**	**67**	**14%**

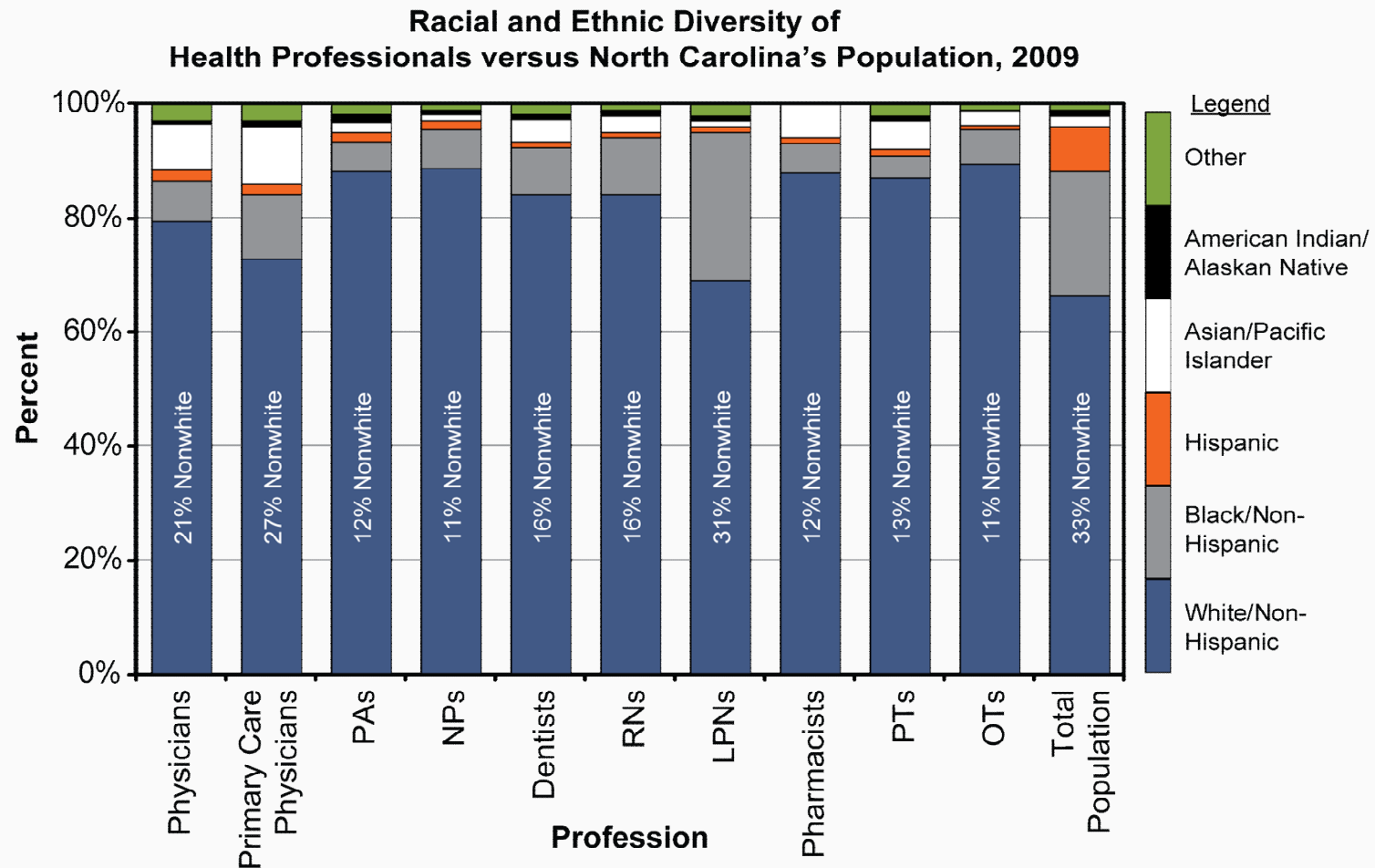UNC | THE CECIL G. SHEPS CENTER FOR HEALTH SERVICES RESEARCH

CHALLENGES

Motivational | **Organizational** | **Analytical** | **Financial**

Data-driven workforce analyses necessary to: Identify "Uncomfortable Truths"

**Racial and Ethnic Diversity of
Health Professionals versus North Carolina's Population, 2009**

Legend:
- Other
- American Indian/Alaskan Native
- Asian/Pacific Islander
- Hispanic
- Black/Non-Hispanic
- White/Non-Hispanic

Y-axis: Percent (0% to 100%)

X-axis categories (Profession): Physicians (21% Nonwhite), Primary Care Physicians (27% Nonwhite), PAs (12% Nonwhite), NPs (11% Nonwhite), Dentists (16% Nonwhite), RNs (16% Nonwhite), LPNs (31% Nonwhite), Pharmacists (12% Nonwhite), PTs (13% Nonwhite), OTs (11% Nonwhite), Total Population (33% Nonwhite)

Sources: NC Health Professions Data System with data derived from the following boards: NC State Board of Dental Examiners, NC Medical Board, NC Board of Pharmacy, NC Board of Physical Therapy Examiners, NC Board of Nursing and the NC Board of Occupational Therapy. Population data derived from Population Estimates, U.S. Census Bureau: State and County QuickFacts. Missing race data were excluded from this analysis.

Motivational | Organizational | Analytical | Financial

Why Do *State-Based* Workforce Planning?

- State and sub-state variations in health workforce needs

- Supply problematic in some specialties and maldistribution remains persistent problem

- Historical absence of national workforce planning

- Many policy levers are state-level

- Decisions about whether to enact or change policies directed at training, recruiting, and retaining health professionals affect wide range of stakeholders, are source of contentious debate

Who Uses Data & For What Purposes?

Government
Policy Decisions
Allocate funding
Program planning
Evaluation
HPSA analysis
Grant proposals

Workforce Policy
Evaluation
Program planning
Policy analysis
Regulatory questions
Grant proposals
Pipeline and diversity

Education, Research
Planning for new schools
Planning for new programs
Pipeline and diversity
Evaluation
Research projects
Grant proposals

Funders
Program planning
Allocate funding
Evaluation

National Organizations
National policy
Evaluation
Dissemination
Improve data quality

Professional Associations
Advocacy, Membership
Policy analysis
Program planning
Grant proposals

Other
News stories; class projects; locational analysis; loan repayment; court cases; advertise seminars

Motivational | **Organizational** | **Analytical** | **Financial**

Key Organizational Challenges

- Licensure body does not see data collection as their role

- Licensure body lacks staff able to undertake data collection

- Organization of licensure body: housed within government versus as independent entity?
As one body or individual boards?

- Do you legislate this?

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Motivational | **Organizational** | **Analytical** | **Financial**

Key Organizational Challenges

- Can highlight underlying turf issues between existing organizations

- Where are data housed?

- How to protect confidentiality? Who can access data and for what purpose?

- How to protect data objectivity—Sheps Center as academic institution has credibility and is seen as objective
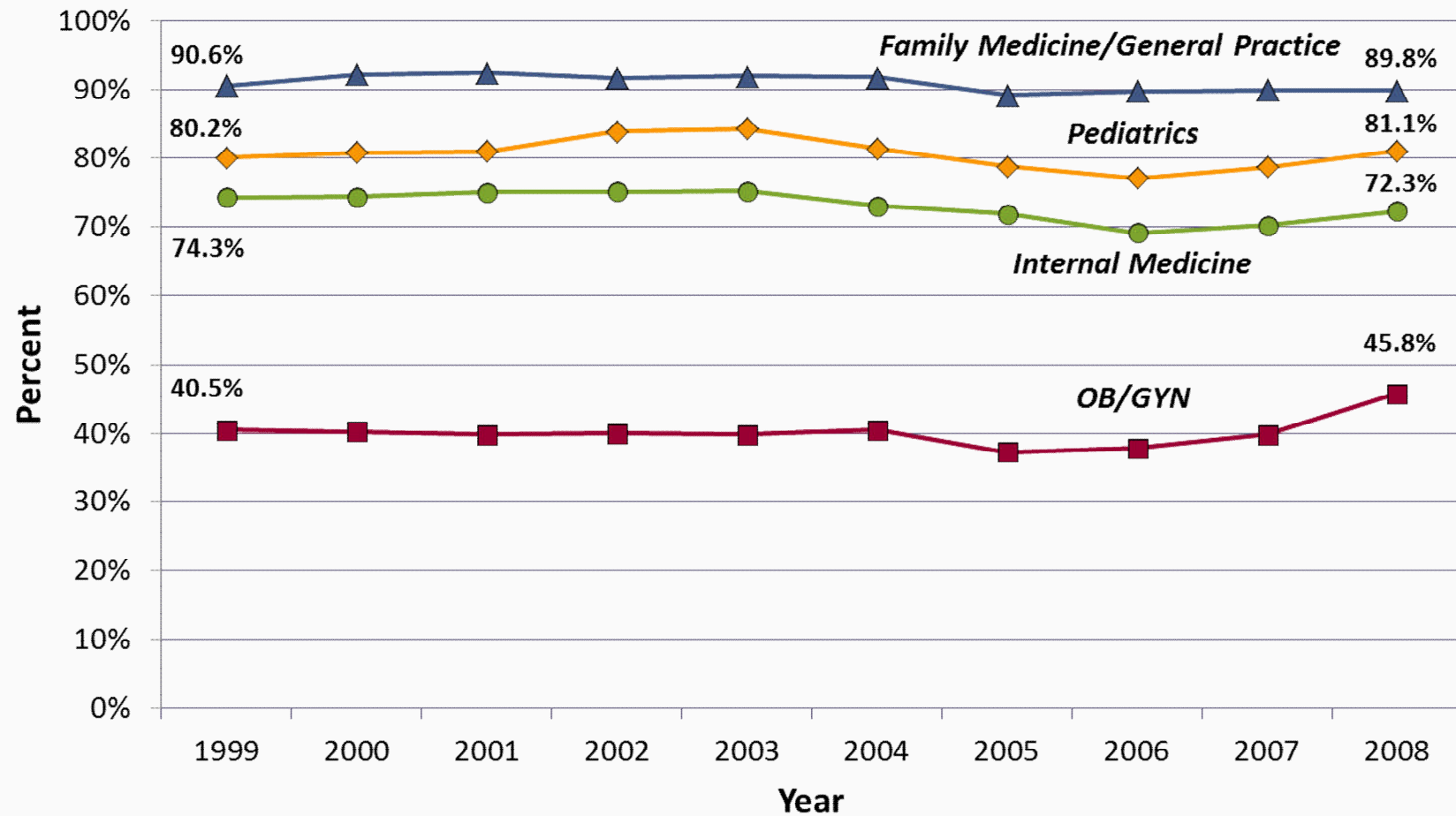
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Motivational | **Organizational** | **Analytical** | **Financial**

Percentage of Total Clinical Care Hours Spent in Primary Care
North Carolina, 1999-2008

Motivational | **Organizational** | **Analytical** | **Financial**

Funding: Where Do States Get Money to Support Increased Data Collection?

- Start up costs: separate, new and shiny entity versus embedding it in existing entity

- Cost of maintaining system to ensure longitudinal data

- Who bears the costs? The licensure body? The tax-payer? AHEC? Private foundations? Professional associations?

- Staffing: need data management, analytic, cartographic, policy analysis, writing, presentation skills, etc.

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Keys to Success

How have we been able to get past the challenges?

▷ **Vision**

▷ **Persistence**

▷ **Relationships**

▷ **Objectivity**

▷ **Quality**

▷ **Cooperation**

Questions?

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http://www.shepscenter.unc.edu/hp